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(54) TRANSMITTING DEVICE AND RECEIVING DEVICE FOR ELECTRONIC PROGRAM GUIDE

(57)Abstract:

PROBLEM TO BE SOLVED: To improve the usability when a user select a program through the use of a program guide and views by encoding electronic program guide information, decoding an input code sequence to which music name list information corresponding to a program is added into guide information, and outputting it.

SOLUTION: A decoder part 14 decodes the input code sequence of an inputted electronic program guide part into a video signal for displaying an electronic program guide picture and output it to a sub picture composition part 18. A format conversion part 15, on the other hand, decodes the input sequence of an inputted music name list part into a video signal for displaying music name list on the screen and outputs it to an external device. In parallel with this, the video signal is reduced to the size of a sub picture and outputted to a sub picture compositing part 18. The sub picture compositing part 18 superposes the video signal for music name list display which is inputted from the format conversion part 15 and reduced to the sub picture on the video signal for electronic program guide picture display inputted from the decoder

part 14.

CLAIMS

[Claim(s)]
[Claim 1] The sending set of the electronic program guide which has an addition means to output as an output sign train which adds the musical piece name list information according to said program to said sign train which a coding means to encode the electronic program guide information according to a program, and to output as a sign train, and said coding means outputted, and is outputted to the exterior of equipment.
[Claim 2] The receiving set of the electronic program guide which has an electronic program guide information decryption means decrypt and output said electronic program guide information to the sign train which encoded the electronic program guide information according to a program from the input sign train which added the musical piece name list information according to said program, and a musical piece name list information decryption means decrypt and output the musical piece name list information according to said program from said input sign train.
[Claim 3] In the receiving set of an electronic program guide according to claim 2, said input sign train comes to add two or more musical piece name list information. An assignment means to specify specific musical piece name list information from said

two or more musical piece name list information using the electronic program guide information which said electronic program guide information decryption means outputs, The receiving set of the electronic program guide characterized by having said musical piece name list decryption means to decrypt and output the musical piece name list information specified by said assignment means.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] The invention in this application relates to the sending set and receiving set of an electronic program guide which are a means to offer electronic information for a user to choose and appreciate a program.
[0002]
[Description of the Prior Art] In recent years, by the spread of a cable TV or satellite broadcasting services, the number of the channel which a user can receive, and programs increases by leaps and bounds, and quickness and choosing certainly and simple are becoming still more difficult about the program for which a user asks using a certain means from the former, such as a race card offered by print media.
[0003] An electronic program guide is in the approach proposed from the former in order to solve this. there is this separately with the program broadcast -- it is -- in parallel, the information (program guide information) about a program tends to be transmitted to a user terminal from a broadcasting station, and a user is going to choose a desired program using the information about the program received and accumulated.
[0004] The class of information included in the information about the program of the electronic program guide concerning the conventional technique had the common outline (outline) of a title name, program start time, and a program etc. as shown also in drawing 12 for example, in JP,8-289266,A.
[0005] However, the actual condition is that the information used in case the program a user wants to look at himself is chosen is not restricted to information, such as a outline of the title name of a program which is watched by the conventional technique, broadcast time, and a program.
[0006] For example, the musical musical piece name list performed in the music currently used in the program, i.e., the theme song of a drama and background music, and a music program is investigated beforehand, and the needs to choose viewing and listening of the program for which the music suitable for liking of them and music to listen to are used exist. furthermore, a sound -- the sound currently used in the

program other than the choosing easy listening object —— the sound currently used in the program after using for decision whether he guesses the image and ambient atmosphere of a program from an easy musical piece name, and watches a program or finishing watching a program —— if an easy musical piece name can be checked, convenience can deepen appreciation of increase and a program more for a user.
[0007]
[Problem(s) to be Solved by the Invention] When the musical piece name information on the music currently used in the program as mentioned above could use as a part of electronic program guide, in spite of having been effective in convenience increasing in case a user chooses and appreciates a program, such needs were not supported in the conventional electronic program guide.
[0008]
[Means for Solving the Problem] It sets it as the object of invention that the invention in this application improves convenience in case it was made in view of the above-mentioned situation, the electronic program guide information which added the electronic program guide sending set which transmits the electronic program guide information which added the musical piece name list relevant to a program, and the musical piece name list which helps selection of a program receives, the electronic program guide receiving set which outputs a musical piece name list offers and a user chooses and appreciates a program using an electronic program guide.
[0009] A coding means for the invention in this application to encode the electronic program guide information according to a program, and to output as a sign train (A), (B), and (C) in order to solve the above-mentioned technical problem (2), The musical piece name list information (D) according to said program is added to said sign train (A) which said coding means (2) outputted, (B), and (C). The sending set (1) of the electronic program guide which has an addition means (3) to output as the output sign train (A) outputted to the exterior of equipment, (B), (C), and (D) is offered.
[0010] In order to solve the above-mentioned technical problem furthermore, the invention in this application From the input sign train (A) which added the musical piece name list information (D) according to said program to the sign train (A) which encoded the electronic program guide information according to a program, (B), and (C), (B), (C), and (D) An electronic program guide information decryption means (13) to decrypt and output said electronic program guide information, and (14), The receiving set (11) of the electronic program guide which has a musical piece name list information decryption means (13) to decrypt and output the musical piece name list information according to said program from said input sign train (A), (B), (C), and (D), and (15) is offered.
[0011] In order to solve the above-mentioned technical problem furthermore, the invention in this application In the receiving set of the electronic program guide of a publication, said input sign train comes to add two or more musical piece name list information (D1) (D2) (D3) to the above. An assignment means to specify specific

musical piece name list information using the electronic program guide information which said electronic program guide information decryption means (13) and (14) output from said two or more musical piece name list information (D1) (D2) (D3) (17), The receiving set (19) of the electronic program guide characterized by having said musical piece name list decryption means (15) to decrypt and output the musical piece name list information specified by said assignment means (17) is offered.
[0012]
[Embodiment of the Invention] Next, the gestalt of 1 operation of the sending set of the electronic program guide built over below at the invention in this application is explained using drawing 1 thru/or drawing 2 . Drawing 1 is the block diagram showing the configuration of the outline of the gestalt of 1 operation of the sending set (1) of the electronic program guide concerning the invention in this application.
[0013] In drawing 1 , the encoder section (2) has the function which changes into a sign train (A), (B), and (C) the program guide information that it inputted, and is outputted to the musical piece name list information insertion section (3). The musical piece name list information insertion section (3) adds the musical piece name list information (D) that it inputted to the sign train (A) and (B) which are inputted from the encoder section (2), and (C), and has the function outputted to the exterior of equipment as a transmitting sign train (A), (B), (C), and (D).
[0014] Next, actuation of the electronic program guide sending set (1) concerning the gestalt of this operation is explained using drawing 1 thru/or drawing 2 . Drawing 2 is the ** type Fig. showing the DS of the sign train in which an electronic program guide sending set (1) participates.
[0015] In drawing 1 , program guide information inputs into the encoder section (2) first. With program guide information, information, such as a title of a program about one program, a broadcast channel, broadcast initiation and end time, a class of program, and detailed information (a performer, program description, story, etc.), is collected and constituted, and it is applied as an electronic program guide system using the format defined beforehand.
[0016] The encoder section (2) generates a sign train (A), (B), and (C) from the program guide information that it inputted, and outputs them to the musical piece name list information insertion section (3). The sign train (A) generated by the encoder section (2), (B), and (C) have structure shown for example, in drawing 2 (a). It consists of the start code (A) which declares the beginning of program guide information, information (B) which shows the class (genre) of program with the sign of 1-byte length, and detailed information (C) containing the title and others of a program.
[0017] The musical piece name list information insertion section (3) generates and outputs a transmitting sign train (A), (B), (C), and (D) by considering as an input the sign train (A), (B), (C), and musical piece name list information which were generated by the encoder section (2).

[0018] Musical piece name list information is the information by which the musical piece name list of the music relevant to a program was encoded according to the format for which it opted beforehand. It is the list of musical piece names written by text format, or is the compression image file by which the video signal of the display screen where the list of musical piece names was displayed was compressed and encoded.

[0019] The information to which the coding approach of musical piece name list information is beforehand set as an electronic program guide system, and two or more approaches were set to be available, and coding was carried out by one of approaches [them] may be musical piece name list information.

[0020] In the configuration of the electronic program guide sending set (1) shown in drawing 1 , the transmitting sign train (A) which the musical piece name list information insertion section (3) outputs, (B), (C), and (D) are making DS like for example, drawing 2 (b).

[0021] That is, the sign train (D) of musical piece name list information is added to the generation sign train (A) which was shown in the drawing 2 (**) and which the encoder section (2) outputs, (B), and (C). The approach which encoded the musical piece name list used at the head of the sign train of D part in case the musical piece name list information part of an electronic program guide is decrypted by the receiving side, and the identification code which specifies a format are added.

[0022] The signal of a program is overlapped on the transmitting sign train (A) outputted from the electronic program guide sending set (1), (B), (C), and (D) using the superposition means and sending-out means which are not illustrated, and they are broadcast by an electric wave or the cable-transmission way as program broadcast which the electronic program guide added.

[0023] In addition, it is also possible to offer the so-called "race card" which summarized the program broadcast by each channel as an electronic program guide added to broadcast at one week other than the information about each program which was explained previously in the table of one sheet. It is the approach as the equipment which the electronic program guide about a "race card" also requires for the conventional technique that the sending set (1) of the electronic program guide concerning the gestalt of this operation is the same, and it is constituted so that it may add to a program and may broadcast.

[0024] The race card which are the information on the electronic program guide about each program explained using drawing 2 and a chart of the program broadcast at fixed periods, such as one week thru/or a day, is transmitted to the accepting station of each home, for example to the following timing. To the periodical timing determined as 6:00 etc. on Monday morning, broadcast is overlapped on each electronic program guide and race card of a program for 1 week, and they are transmitted to it. in the receiver side, it turns out beforehand that it is transmitted to the time amount, and the user is viewing and listening to a program —— in spite of being absent, timer

control performs reception and are recording of an electronic program guide.

[0025] Furthermore, since there may also be a situation of all the programs that a broadcast day draws near, the content of the program is changed, or a sport relay broadcast program extends broadcasting hours according to expansion of a game, and are broadcast after that fixed-time-carrying down, and being broadcast Since it corresponds to it, when transmitting only the data changed on schedule [, such as 6:00,] in the morning every day or carrying out broadcast initiation of the program further If there is modification of subsequent broadcasting hours etc., modification data will be transmitted, and it is applied so that renewal of the electronic program guide information accumulated in a receiving side may be performed and the difference between the accumulated electronic program guide and actual broadcast may not arise.

[0026] Moreover, the transmitting sign train which transmits electronic program guide information to each home may be constituted as follows. "-- the Institute of Image Information and Television Engineers [ ] -- an example of a data-broadcasting transmission protocol stack is introduced to Vol.52, No.11, and pp.1551 - 1553."

[0027] In the above-mentioned example, the service relevant to a TV program is offered by the data coding method, It is based on MPEG 2 which is a picture compression method in digital broadcasting. On TS (transport stream) That data appear in the form of PES (Packetized Elementary Stream) or Section, and are recording system service A data carousel and an object carousel can be considered as a transmission protocol. This data carousel transmission system is a DSM-CC data carousel specified by ISO 13818-6, this is added for an extension, a descriptor, etc. and it is describing that the method which can transmit a file name, directory structure, an expiration date, etc. is examined.

[0028] By the transceiver system using a transmission protocol stack which is examined above, a user receives the data broadcast service other than a program from the receiver installed in each home, and it becomes possible to reproduce and use the detailed information which consists of an image or voice by interactive actuation.

[0029] In such a system, the sending set of the electronic program guide which transmits musical piece name list information by the aforementioned data-broadcasting transmission protocol stack with the identifier showing them which is the information which the equipment concerning the invention in this application explained previously adds may be constituted.

[0030] This invention is carried out in the transmission system with which data are transmitted to each home using the above interactive approaches, or a transmission system which was previously explained with the gestalt of operation and with which data are sent to a target as a part of broadcast on the other hand. In the gestalt of the following operations, it explains with the case where it is the transmission system with which data are sent as a part of broadcast one-sidedly [the latter].

[0031] By the way, apart from the example explained above, although explained as what adds the musical piece name list about a program to an electronic program guide, the equipment concerning the gestalt of this operation may be constituted so that the following information may be added, in order to realize the object of improving the convenience at the time of a user choosing a program using an electronic program guide.

[0032] That is, it is possible to add the goods image about a program to an electronic program guide. Various goods, such as an automobile, telephone, and a personal computer, appear in programs, such as a drama, as stage properties etc. Since he says that goods with a positive feeling and the goods currently regarded as wanting appear, the user who chooses listening of a program exists. It looks at the sight in which goods are actually used in the goods which are considering purchase, and depends it on the object of wanting to check the user-friendliness of goods, a style, an ambient atmosphere, etc.

[0033] Furthermore, since the goods which appeared in the program watched now were pleasing, there are also needs of the user who wants to know after broadcasting the information on goods, such as a manufacture name of goods and a trade name. Or the broadcaster of a program or the manufacturer of goods other than the needs by the side of the above users is able to use the goods image information added to the electronic program guide as advertising media which advertizes goods. Such equipment is not realized, although it is desirable if the goods image information relevant to a program can be added to an electronic program guide for the above object.

[0034] Then, in order to offer the sending set of an electronic program guide which adds the image of the goods relevant to a program to an electronic program guide The goods image information insertion section is arranged instead of the musical piece name list information insertion section (3) in the block diagram of drawing 1 . The information which encoded the goods image may be added to the sign train which encoded the electronic program guide, and you may constitute so that the transmitting sign train which goods image information added instead of musical piece name list information (D) may be outputted in (**) in the ** type Fig. explaining the DS of drawing 2 . This is shown in drawing 11 . A goods image list includes a trade name, and the start time and end time of the scene where goods are used within a program.

[0035] Next, the gestalt of operation of the first of the electronic program guide receiving set concerning the invention in this application is explained using drawing 2 thru/or drawing 5 , and drawing 9 . Drawing 3 is the block diagram of the outline of the receiving set (11) of an electronic program guide concerning the gestalt of this operation.

[0036] While the separation section (13) outputs and stores temporarily the sign train (A) of the inputted electronic program guide, (B), (C), and (D) in drawing 3 at buffer

memory (12) It is an electronic program guide part (A) (it separates into B (C) and a musical piece name list information part (D)) about the input sign train (A) read from buffer memory (12) according to the selection-control signal which a user inputs using actuation means, such as remote control attached to a television set (40), (B), (C), and (D). It has the function which outputs the input sign train (A) of said electronic program guide part, (B), and (C) to the decoder section (14), and outputs the input sign train (D) of a musical piece name list information part to the format conversion section (15).

[0037] Buffer memory (12) memorizes the input sign train (A) and (B) which are inputted from the separation section (13), (C), and (D), and has the function which reads the memorized input sign train (A), (B), (C), and (D) according to the command from the separation section (13), and is outputted to the separation section (13). The decoder section (14) decrypts the input sign train (A) of the electronic program guide part inputted from the separation section (13), (B), and (C), and has the function outputted to the child screen composition section (18) as a video signal.

[0038] The format-conversion section (15) has the function which outputs the video signal of the child screen which decrypted the input sign train (D) of the musical piece name list information part inputted from the separation section (13), outputted to the exterior of an electronic program guide receiving set (11) as a video signal, reduced the video signal decrypted further so that it might go into the child screen which are some fields in a screen, and reduced to the child screen composition section (18).

[0039] The child screen composition section (18) has the function which superimposes the image which displays the musical piece name list reduced to the video signal which displays the electronic program guide inputted from the decoder section (14) by the child screen inputted from the format conversion section (15), and is outputted to the exterior of equipment (11).

[0040] A television set (40) has the function to generate a selection-control signal according to actuation by the user of actuation means, such as attached remote control, to input into the separation section (13), and to operate the display of an electronic program guide screen while a musical piece name list displays the screen of the electronic program guide displayed on the child screen according to the video signal which an electronic program guide receiving set (11) outputs.

[0041] Next, actuation of the electronic program guide receiving set (11) concerning the gestalt of this operation is explained using drawing 2 thru/or drawing 5 , and drawing 9 . The program broadcast superimposed on the transmitting sign train (A) first shown in the drawing 2 (**), (B), (C), and (D) reaches the broadcast receiving means (not shown) installed in the home by the electric wave or the cable-transmission way, the sign train (A) of an electronic program guide, (B), (C), and (D) are separated from a program, and it inputs into an electronic program guide receiving set (11).

[0042] The separation section (13) displays immediately the sign train (A) and (B)

which were inputted, (C), and (D) according to the display of the electronic program guide which a user inputs, and the command of the selection-control signal according to a non-display select command, or outputs them to buffer memory (12), and performs temporary storage.

[0043] Furthermore, it is as having explained previously that it is also possible for the electronic program guide inputted into an electronic program guide receiving set (11) to offer the data of the so-called "race card" which summarized the program broadcast by each channel among [other than the data which store the information on each program as shown in an input sign train (A), (B), (C), and (D)] one week on the chart of one sheet.

[0044] Actuation means, such as attached remote control, perform selection of whether the user who is receiving broadcast displays an electronic program guide at a television set (40), or not to carry out. If a user inputs the command "display an electronic program guide", using an actuation means, a selection-control signal will be generated according to a command, and it will input into the separation section (13) of an electronic program guide receiving set (11).

[0045] The separation section (13) displays the race card of an electronic program guide on a screen first according to a selection-control signal. Therefore, the separation section (13) reads the data about a race card from buffer memory (12), outputs them to the decoder section (14), and the decoder section (14) changes the inputted data into the video signal which carries out a screen display of the race card, and it outputs it to the child screen composition section (18).

[0046] The child screen composition section (18) outputs the inputted video signal to the exterior of equipment as it is, and a user can see the race card of an electronic program guide with the television set (40) linked to equipment (11). The example of a display of a race card is shown in drawing 4 . It is shown that the information on the electronic program guide about two programs of a program 1 and a program 2 is accumulated in buffer memory (13) in the program for one week of the channel which is the example shown in drawing 4 , and it can display, and the user just chose the program 2 from from using remote control etc. among selectable programs.

[0047] If actuation in which a user decides selection further in the state of drawing 4 is performed, the selection-control signal that the actuation means of a television set (40) should display the electronic program guide about a program 2 will be outputted to the separation section (13). The separation section (13) reads the input sign train (A) applicable to a program 2, (B), (C), and (D) from buffer memory (12) according to a selection-control signal, separates the part (A) of an electronic program guide, (B), and (C), is outputted to the decoder section (14), separates the part (D) of musical piece name list information, and outputs it to the format-conversion section (15).

[0048] The decoder section (14) is outputted to the child screen composition section (18) as a video signal which decrypts the input sign train (A) of the inputted electronic program guide part, (B), and (C), and displays an electronic program guide screen. On

the other hand, the format conversion section (15) reduces a video signal to the magnitude of the child screen which occupies some fields of a screen in parallel to it, and outputs the video signal of a child screen to the child screen composition section (18) while it generates the video signal which decrypts the input sign train (D) of the inputted musical piece name list part, and carries out a screen display of the musical piece name list and outputs it to the exterior of equipment.

[0049] The child screen composition section (18) superimposes the video signal which displays the musical piece name list reduced by the child screen inputted into the video signal which displays the electronic program guide screen inputted from the decoder section (14) from the format conversion section (15), and outputs it to the exterior of an electronic program guide receiving set (11) as a video signal which displays the electronic program guide screen which has the child screen which displays a musical piece name list. A user displays on the screen of a television set (40) the video signal which equipment (11) outputs. The example of a display of a screen is shown in drawing 5 .

[0050] Drawing 5 (A) is the example of a display of the electronic program guide screen which has the child screen which displays a musical piece name list. In drawing 5 (A), text about a program, such as a program title and broadcast time, is displayed all over the electronic program guide display screen (20). Furthermore, all over the musical piece name list display child screen (22) in the display screen (20), the musical piece name list about a program is displayed. A musical piece name list has the display of a musical piece name, and the start time of the scene where a musical piece is used within a program and end time. the display format of time amount -- for example, PTS (presentation time stamp) -- "-- the time -- :minute -- it is expressed with :second:frame."

[0051] When a user wants to eliminate a musical piece name list display child screen (22) out of the electronic program guide display screen (20), it can eliminate by performing the next actuation. If a user chooses the musical piece name list elimination carbon button (21) displayed all over the screen (20) with actuation means, such as remote control, the selection-control signal "eliminate the musical piece name list child screen which an actuation means generates" will input into the separation section (13), and will input into the format conversion section (15) further.

[0052] Since it controls according to the inputted selection-control signal so that the format-conversion section (15) does not output the musical piece name list display screen reduced by the child screen to the child screen composition section (18), the display screen of the electronic program guide displayed on a television set according to the video signal which the child screen composition section (18) outputs turns into the electronic program guide display screen (20) where a musical piece name list display child screen (22) is not included, as shown in drawing 5 (B).

[0053] The video signal (a child screen does not contract) which, on the other hand, displays the musical piece name list which the format conversion section (15) outputs

separately [whether it inputs into a television set (40) through a system different from the video signal which displays the electronic program guide which displayed the musical piece name list on the above-mentioned child screen, and] Or it inputs into one more different television set linked to an electronic program guide receiver (11) from the television set (40) explained above which is not illustrated.

[0054] In the example of connection of the video signal which displays the musical piece name list explained above When the video signal which displays a musical piece name list on former another system of a television set (40) is inputted, A user displays on a screen either the electronic program guide display screen (20) which shows the signal input system which should be displayed on a screen using remote control of a television set (40) etc. to a switch and drawing 5 , or the musical piece name list display screen (23), and uses for program selection. The example of a display of the musical piece name list display screen (23) is shown in drawing 9 .

[0055] When inputting into other latter television sets the video signal which displays a musical piece name list, the display screen of an electronic program guide it is indicated to drawing 5 that explained previously is displayed on the television set (40), and the musical piece name list display screen (23) shown in the television set which others do not illustrate in parallel simultaneously at drawing 9 is displayed.

[0056] In this case, there is a merit from which the actuation which carries out the selection switch of the two display screens using an actuation means becomes unnecessary. In addition, as mentioned above, although the format conversion section (15) outputs the video signal which displays the musical piece name list reduced by the child screen, and the same video signal which is not reduced, since two video signals display the same content, a user can also choose a program using the musical piece name list display child screen (22) displayed all over the electronic program guide display screen (20).

[0057] Next, the gestalt of operation of the second of the electronic program guide receiving set concerning the invention in this application is explained using drawing 6 thru/or drawing 10 . In addition, in the following explanation, in order to give the same sign and a name to the same configuration as the already explained content and to avoid duplication, a part of same content is omitted and explained.

[0058] Drawing 10 is a ** type Fig. for explaining the DS of the sign train of the electronic program guide inputted into the electronic program guide receiving set (19) concerning the gestalt of this operation. In the gestalt of this operation, it is the description that the musical piece name list information added although it is the same as that of the gestalt of the first operation that it explained previously to perform the display of an electronic program guide which musical piece name list information added is plurality.

[0059] Namely, the sign train (A) about an electronic program guide shown in the drawing 10 (**), (B), and (C) are received. Three sign trains (D1) (D2) (D3) which encoded three musical piece name list information of two or more musical piece name

list information 1, for example, musical piece name list information, the musical piece name list information 2, and the musical piece name list information 3 are added. The transmitting sign train (A) shown in the drawing 10 (**) after all, (B), and (C) (D1) (D2) (D3) are superimposed and broadcast by the program, and it is separated by the receiver of each home, and inputs into the receiving set (19) concerning the gestalt of this operation.

[0060] The approach of having encoded musical piece name list information and having compressed used in case a sign train is decrypted by the receiving side, and the identification code which specifies a format are added to the sign train of three musical piece name list information, and each head of D1, D2, and D3.

[0061] By the way, two or more musical piece name list information can also choose the following information. namely, the sound for which the musical piece name list information 1 is used in the program -- an easy music name and a sound -- one thing from which the still picture images (sound a performance scene, a player's image, easy image image, etc.) related comfortably were constituted by the image of one sheet should be created at a time to one music, and should pack the static image of each music And the information (a goods number, a sale manufacturer, a price, packaging design, etc.) about contents goods, such as CD (Compact Disk) with which each musical piece contained in the musical piece name list information 1 was contained, should be constituted to one music by the static image per sheet, and the static image of each music should be packed into the musical piece name list information 2.

[0062] Furthermore, the copyright information on each music similarly contained in the musical piece name list information 1 (a copyright rightful claimant, access period, etc.) should be constituted to one music by the static image per sheet, and the static image of each music should be packed into the musical piece name list information 3. Thus, since even the information about contents goods and copyright which it not only can know easily the music name of the music relevant to [by choosing musical piece name list information, and constituting equipment so that it may explain later] a program in a user, but contained the music can obtain easily, a user's convenience can be raised further.

[0063] Next, the configuration of the gestalt of this operation is explained. Drawing 6 is the block diagram having shown the configuration of the outline of the electronic program guide receiving set (19) concerning the gestalt of this operation.

[0064] In the block diagram of drawing 6 , a user inputs the selection section (17) using an actuation means to be attached to a television set (40). So that one display screen of the electronic program guide screen displayed on the screen may be explained in the command (page turning-over command) switched to the next display screen, and the back It responds to the command (musical piece name list information select command) which chooses one which should be reproduced from two or more musical piece name list information displayed on the display screen (30) of an

electronic program guide. It has the function which emits the command by display the information on a specific electronic program guide, and musical piece name list information in the separation section (13).

[0065] The separation section (13) outputs the sign train (A) about the electronic program guide inputted from the outside of equipment (19), (B), and (C) (D1) (D2) (D3) to buffer memory (12). Moreover, an input sign train (A), (B), and (C) (D1) (D2) (D3) are divided into an electronic program guide part (A), (B), (C), and a musical piece name list information part (D1) (D2) (D3), and an electronic program guide part (A), (B), and (C) are outputted to the decoder section (14).

[0066] Furthermore, the separation section (13) separates a specific musical piece name list information part according to the command of the selection section (17) "output the specific musical piece name list information in the musical piece name list information part (D1) (D2) of an input sign train (D3)", and has the function outputted to the memory section (16).

[0067] The memory section (16) was outputted from the separation section (13) according to the command of the selection section (17). The input sign train (D1, or D2 or D3) about the musical piece name list information which the user chose is memorized. According to directions of a playback indication signal, it usually reproduces (one static image contained in musical piece name list information with a fixed time interval is displayed at a time like coma delivery in order). It has the function which outputs the data contained in the input sign train (D1, or D2 or D3) about musical piece name list information by the approach according to the modes, such as rapid-traverse playback (the static image is displayed with the short time interval), to the format conversion section (15).

[0068] Next, actuation of the equipment concerning the gestalt of this operation is explained using drawing 6 thru/or drawing 8 . First, if a user inputs the command "display an electronic program guide", from an actuation means, a race card will be displayed on the screen of a television set (40). Drawing 7 is an example of the display screen of a race card. In drawing 7 , a program 1 and a program 2 can display an electronic program guide among the program for one week displayed on the race card, and the "music name" of a program 1 and a program 2 on display shows that each electronic program guide includes musical piece name list information.

[0069] If a user chooses a program 2 with remote control and selection is decided, the electronic program guide about a program 2 will be displayed on the screen of a television set (40). Drawing 8 (A) is an example of the electronic program guide display screen at that time.

[0070] In drawing 8 (A), two or more indication of text, such as a title of a program and broadcast time, and the musical piece name list information selection carbon button (31) is given in the electronic program guide display screen (30). In the gestalt of this operation, as explained previously, the electronic program guide of one program is constituted so that two or more musical piece name list information may be

included, and when the electronic program guide display screen (30) which a program 2 is chosen from the race card shown in <u>drawing 7</u> , and is shown in <u>drawing 8</u> (A) is displayed, as for the output and the display, neither of the musical piece name list information is still carried out.

[0071] When there is musical piece name list information [a user] to make it output, one of musical piece name list information selection carbon buttons (31) is chosen with remote control etc., and it decides. The selection-control signal according to selection and decision with remote control is inputted into the selection section (17), and the separation section (13) is ordered as the selection section (17) should output the musical piece name list information on the specification according to a signal. The separation section (13) reads D1 of the data of specific musical piece name list information, i.e., the <u>drawing 10</u> (**), from buffer memory (12) according to a command, and outputs it to the memory section (16).

[0072] After the memory section (13) memorizes the inputted data inside, it is outputted to the format conversion section (15) with the data transfer rate according to the reproduction speed (coma delivery display speed of a still picture) by which sequential setting out is carried out. While the format conversion section (15) changes data into the video signal which displays a musical piece name list (coma delivery screen) and outputs them to the exterior of equipment Since the video signal reduced to the child screen in parallel is outputted to the child screen composition section (18), a musical piece name list information-display child screen (24) is popped up and displayed all over the electronic program guide display screen (30) shown in a television set (40) at <u>drawing 8</u> (B).

[0073] As the gestalt of the first operation explained previously, the picture signal which is not reduced to the child screen which the format conversion section (15) outputs in parallel to this Being able to display on a television set (40) as a parent screen by other television sets or system switch actuation, the content of a display becomes what expanded the musical piece name list information (coma delivery image) display child screen (24) to the magnitude of a parent screen (not shown).

[0074] Furthermore, all over an electronic program guide display screen (30), two or more arrangement of the musical piece name list information playback directions carbon button (32) is carried out, and each has rewinding (the still picture being indicated by coma delivery to hard flow), and the function usually direct playback modes, such as playback (it indicates by coma delivery with a standard time interval), a rapid traverse (it indicates by coma delivery with a short time interval), a halt (displaying a still picture present on display is continued), and a halt (it returns to the 1st still picture display).

[0075] If a user chooses the musical piece name list information playback directions carbon button (32) in the desired mode with remote control etc., the playback indication signal according to selection will input into the memory section (16). The memory section (16) changes a data transfer rate and the sequence to transmit

according to the inputted playback indication signal, and outputs data to the sequential format conversion section (15). Since the format conversion section (15) outputs a static image to the child screen composition section (18) and the exterior of equipment (19) one by one according to the data outputted from the memory section (16), a user can see the musical piece name list information displayed in the desired mode.

[0076] By the way, the example previously constituted in explanation of the gestalt of 1 operation of the sending set (1) of an electronic program guide so that the image information of the goods about a program might be added as information added to an electronic program guide was explained. If constituted such, when adding musical piece name list information, effectiveness will be demonstrated in the point different again, and it will become possible to help selection and appreciation of a program.

[0077] Corresponding to this, the sign train which added goods image information to the electronic program guide can be made into an input sign train in the gestalt of the first of the receiving set (11) of an electronic program guide explained above, and (19), and the second operation, and it can consider as the configuration which separates and decrypts a goods image and is outputted as a video signal.

[0078] Namely, it sets to the block diagram of the receiving set (11) of an electronic program guide which makes the DS which transposed D, D1, D2, and D3 to goods image information as shown in the ** type Fig. of the DS shown in drawing 11 and drawing 12 , and is shown in drawing 3 and drawing 6 , and (19). The separation section (13), the memory section (16), and the format conversion section (15) separate and decrypt the sign train about goods image information from an input sign train, and are taken as the configuration outputted as a goods image. Each component is constituted so that the output of a signal etc. may be performed according to the command explained previously according to an actuation means like the case where musical piece name list information is treated.

[0079] Thus, since a user can use now with constituting the goods image display about a program added to the electronic program guide, it is generated like the case where the musical piece name list information that simplicity and the effectiveness that a program could be chosen certainly and easily and a program could be appreciated more deeply explained above by the time of using an electronic program guide is added.

[0080]
[Effect of the Invention] As explained to the detail above, the equipment concerning the invention in this application has the following effectiveness. That is, the electronic program guide sending set of the invention in this application is constituted so that the electronic program guide information which added the musical piece name list information that selection and appreciation of a program were helped may be transmitted. Moreover, it consists of gestalten of operation of the first of the electronic program guide receiving set of the invention in this application so that

musical piece name list information may be separated and outputted from the electronic program guide information which added musical piece name list information.

[0081] Therefore, when two above equipments are used, in addition to the screen-display information on an electronic program guide, a user can use for program selection of the musical piece name list information about a program, and has more quickness and the effectiveness that a desired program can be chosen simple and certainly.

[0082] Furthermore, the equipment of the gestalt of operation of the second of the electronic program guide of the invention in this application is constituted so that the musical piece name list information on desired may be chosen and outputted using the electronic program guide display screen from the electronic program guide information to which two or more musical piece name lists were added. Therefore, by using above equipment and the sending set of the electronic program guide concerning the invention in this application, in addition to the effect of the invention described above, a user faces choosing a program, and can choose and see two or more musical piece name list information, and it is effective in the ability to choose a program from the amount of information for selection increasing more certainly.

[0083] Moreover, the effectiveness that how to enjoy a program spreads is acquired by the information on the music relevant to various programs suitable for the needs to diversify compounding with electronic program guide information, and offering it by the equipment concerning the invention in this application.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the block diagram of the outline of the sending set of the electronic program guide of the invention in this application.

[Drawing 2] It is a ** type Fig. for explaining the DS of the transmitting sign train which the sending set of the electronic program guide of the invention in this application outputs.

[Drawing 3] It is the block diagram of the outline of the gestalt of operation of the first of the receiving set of the electronic program guide of the invention in this application.

[Drawing 4] It is an example of the screen display of an electronic program guide which the gestalt of operation of the first of the receiving set of the electronic program guide of the invention in this application outputs.

[Drawing 5] It is an example of the screen display of an electronic program guide which the gestalt of operation of the first of the receiving set of the electronic

program guide of the invention in this application outputs.

[Drawing 6] It is the block diagram of the outline of the gestalt of operation of the second of the receiving set of the electronic program guide of the invention in this application.

[Drawing 7] It is an example of the screen display of an electronic program guide which the gestalt of operation of the second of the receiving set of the electronic program guide of the invention in this application outputs.

[Drawing 8] It is an example of the screen display of an electronic program guide which the gestalt of operation of the second of the receiving set of the electronic program guide of the invention in this application outputs.

[Drawing 9] It is an example of the screen display of the musical piece name list which the gestalt of operation of the first of the receiving set of the electronic program guide of the invention in this application outputs.

[Drawing 10] It is a ** type Fig. for explaining the DS of the input sign train inputted into the gestalt of operation of the second of the receiving set of the electronic program guide of the invention in this application.

[Drawing 11] It is a ** type Fig. for explaining the DS of the input sign train inputted into the receiving set of the electronic program guide of the invention in this application.

[Drawing 12] It is a ** type Fig. for explaining the DS of the input sign train inputted into the receiving set of the electronic program guide of the invention in this application.

[Description of Notations]

1 Electronic Program Guide Sending Set

2 Encoder Section

3 Musical Piece Name List Information Insertion Section

11 Electronic Program Guide Receiving Set

12 Buffer Memory

13 Separation Section

14 Decoder Section

15 Format Conversion Section

16 Memory Section

17 Selection Section

18 Child Screen Composition Section

19 Electronic Program Guide Receiving Set

20 Electronic Program Guide Display Screen

21 Musical Piece Name List Elimination Carbon Button

22 Musical Piece Name List Display Child Screen

23 Musical Piece Name List Display Screen

24 Musical Piece Name List Display Child Screen

30 Electronic Program Guide Display Screen

31 Musical Piece Name List Information Selection Carbon Button
32 Musical Piece Name List Information Playback Directions Carbon Button
40 Television Set
A Start code
B Information about the class of program
C Detailed information
D Musical piece name list information
D1 Musical piece name list information 1
D2 Musical piece name list information 2
D3 Musical piece name list information 3

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